

IN THE CLAIMS

1. (Currently Amended) A method of manufacturing a rotor for a high vacuum turbomolecular pump, comprising the steps of:

providing a workpiece comprising bar 1, said bar being made of a material suitable for producing said rotor;

first forging said workpiece to obtain a ~~generally~~ cylindrical body (1,11) through an axial compression (P_1), said cylindrical body (1,11) being a semi-finished part having homogeneous mechanical properties;

next forging said workpiece to form a cavity 13 within said cylindrical body (1,11), by means of a punch (12) that is forced into the billet (11); and

mechanically working said ~~generally~~-cylindrical body (1,11) for forming at least one ~~one or more set~~ sets of radial peripheral vanes therein;

wherein during the forging step, said workpiece is subject to axial compression (P_1) of said workpiece, a radial expansion thereof is prevented by application of forces (P_2).

2. (Canceled)

3. (Original) The method of claim 1, wherein said rotor is a bell-shaped rotor.

4. (Canceled)

5. (Currently Amended) The method of claim [[4]] 3, wherein the step of forming said cavity (13) comprises extending said cavity (13) over a part of said cylindrical billet and refining by subsequent mechanical working.

6. (Previously Presented) The method of claim 5, further comprising the step of forming of a central bore on a bottom of said cavity and subsequently providing a thermal treatment for improving mechanical properties of said bell-shaped rotor.

7. (Currently Amended) The method of as claimed in any preceding claim 1, wherein

said step of working further comprising ~~a step of~~ processing said at least one set of radial peripheral vanes by one or more techniques selected from the group consisting of milling, turning and electric discharge machining.

8-9 (Canceled)